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A Strong Regulatory Framework for an Effective Competitive Electricity Market in Developing Economies

An Annex to *Beyond the Textbook*

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Introduction

Governments around the world have been introducing market reforms to their electricity supply industries (ESIs) since the 1980s to create competition in the production and supply of electricity. If well implemented, with robust structural changes to enhance competition, effective competition can bring a constant downward pressure on electricity costs.

In most developing economies undertaking ESI reform continued ownership of generation, transmission and distribution by state owned enterprises (SOEs) is common.[1] In such situations, there are three main requirements for a strong regulatory framework for an effective competitive electricity market:

1. ***An electricity regulator*** with a broad mandate, sufficient autonomy and the necessary competencies becomes the main overseer of the sector, replacing the oversight role played by the state-owned monopoly.
2. ***An energy ministry*** which sets out overall electricity policy, holds the regulator to account and provides coordination of electricity planning.
3. ***A finance ministry*** responsible for improving the corporate performance of the ESI SOEs through setting of financial targets, managing electricity subsidies and reforming corporate governance.

[1] Foster, V., & Rana, A. (2020). *Rethinking power sector reform in the developing world*, p. 174. Sustainable Infrastructure Series. World Bank. https://openknowledge.worldbank.org/entities/publication/1ed3a6de-0d51-5a4f-92c3-ea3bc034947b.

Regulatory Mandate

A strong electricity regulator needs to have a broad mandate that includes the following four key responsibilities:

1. **Set tariffs in an open and transparent manner**. Setting rates is the single most important regulatory task. In many cases, state-owned monopolies had set their own rates, but this is not acceptable in the context of competitive markets. Regulators need to determine rates for transmission, distribution and default retail rates for smaller customers.
2. **Assure nondiscriminatory access for and oversee conduct of market participants.** An independent regulator needs to set the rules to ensure market participants enjoy nondiscriminatory access to electricity markets and in turn must oversee the conduct of the market participants. This is particularly sensitive for the large ESI SOEs so that other market participants are not disadvantaged by the SOEs' market power.
3. **Oversee the planning and procurement of new investment**. While the planning process may itself be led by a government ministry or a specialized agency, regulatory review is appropriate to see if the plan balances the government's priorities and represents fair value for money. Likewise, when competitive procurements of new resources are undertaken to implement the plan, the regulator can ensure that a fair process has been followed.
4. **Oversee the quality of service**. Customers place a lot of value on the quality of electricity service, formerly the accountability of the state-owned monopoly. The regulator can monitor and require regular reporting on quality of service.

Regulatory Autonomy

Coupled with a strong mandate, regulators need to have autonomy to be effective. There are three key attributes a regulatory institution should have to be considered autonomous or independent:

1. **Autonomy in decision-making.** This is particularly important with respect to the level of tariffs but also other key regulations, such as those setting standards for the quality of electricity service. To carry this out, the electricity regulator needs to be independent of the government with respect to such decisions. This means providing the decision-makers security of tenure: once appointed, they can only be removed before the end of their term for cause.
2. **Independent of the sector it regulates.** Equally important, the regulator must be independent of stakeholders in the sector. This is primarily a question of personnel. Decision-makers and senior staff in the regulatory organization must not be able to move easily between regulated entity and regulator, that is, no revolving door. This also includes separate oversight of potential conflict of interest by senior staff: they should not be able hold securities in the companies that they regulate.
3. **Financial autonomy.** The third element to creating an autonomous regulator is to give it control over how it finances its activities. It is common for regulators to recover the cost of its activities from the sector they regulate. Conversely, decisions about allocation of its budget need to be in the control of the regulator itself rather than the government.

Regulatory Competencies

Conducting the key regulatory tasks requires regulatory staff that possess a broad range of competencies. There are several areas of responsibility that require specific technical competencies. These include:

Reviewing rate applications: Business and accounting competencies to assess the reasonableness of the rate request, technical competencies to judge the reasonableness of the investment plans, legal competency to ensure compliance with applicable laws, financial expertise to assess the allowed rate of return on capital and economic competencies to assess the proposed rate designs.

Overseeing market conduct: The required competencies include the necessary technical legal and financial skills to craft sets of rules that are enforceable, to be able to monitor and audit market participant information, and skills related to compliance and enforcement of the rules to encourage compliance by others. A particularly specialized economics expertise is needed to oversee wholesale electricity markets and to determine if larger players are abusing their dominant position in the market. Conversely, misconduct by retailers against customers requires an in-depth knowledge of consumer protection laws, significant investment by the regulator in call centres and associated support to hear and investigate customer complaints and compliance and enforcement officials to prosecute retailer misconduct.

Overseeing electricity planning and procurement of new investment: Technical expertise to be able to scrutinize the overall system plan and gauge progress against that plan as well as scrutinizing rules for procurement of new resources.

Overseeing quality of service: Another example is ensuring compliance with quality-of-service standards, which requires the requisite technical expertise to ensure that data being reported is accurate.

Communicating with the public: A vital but sometimes neglected competency is the role of the regulator in communicating with electricity customers and the broader public. Regulators are often entrusted with setting default retail electricity rates and need to communicate these — and changes in such rates — to customers.

Energy Ministry Role in the Reformed ESI

The regulatory framework for the sector is greater than what can be covered by the electricity regulator alone. Government ministries also need to take an enhanced role as leadership in the sector shifts from the state-owned monopoly to the government. The energy ministry is responsible for energy policy and needs to have oversight over the regulator. For the energy ministry, the priorities should be:

Setting out government energy policy. Electricity regulators exist in the context of the broader government policy for the ESI, which is the responsibility of the energy ministry. Therefore, while electricity regulators need autonomy from the government to operate effectively, they also require guidance on the policy context in which the regulator is making decisions. This guidance should be set out in an open and transparent manner, such as through a mandate letter from the energy minister to the regulatory body.

Holding the regulator accountable. Regulatory accountability is the other side of the coin of regulatory independence. The energy ministry would normally be responsible for ensuring that the regulator operates in transparent ways and is responsive. This includes regular public reporting on the regulator’s activities and how it has performed against its goals. In addition, while an independent regulator must control of its own budget, government oversight may be desirable to limit increases of budget, particularly if energy companies are required to pay for it.

Coordination of electricity planning. While the planning function may reside within a system operator, a specialized government agency or within the energy ministry itself, there is a distinct role for the energy ministry in coordination of electricity planning. The electricity planning process becomes a tool to engage other ministries of the government, the customers and the ESI on the future of the electricity system.

Finance Ministry Role in the Reformed ESI

The ESI SOEs represent more than electricity companies, they are significant government-owned assets. They may also be recipients of government support, either in the form of subsidies that would be passed on to electricity consumers, or through ability to access government-backed capital to finance investments. In many jurisdictions either the finance ministry or a specialized ministry of state-owned enterprises is responsible for the oversight of the ESI SOEs. The responsible ministry needs to set out three priorities:

1. **Set explicit financial targets.** Set targets (for rate of return, capital structure) for state-owned electricity companies (ESI SOEs) to measure financial performance.
2. **Manage electricity subsidies**. Subsidizing electricity for consumers is often used as a macroeconomic tool (e.g., to control inflation) and is often managed by the finance ministry. The ministry can direct these subsidies directly to consumers or indirectly through the state-owned enterprises. Transparency is important in order that these subsidies be correctly transposed into lower electricity rates.

3. **Improve corporate governance of ESI SOEs.** Stronger ESI regulation needs to be complemented by effective oversight of the electricity SOEs by the responsible government ministries — often the finance ministry or a ministry dedicated to overseeing state-owned enterprises.

The *G20/OECD Guidelines on Corporate Governance of State-Owned Enterprises*[2] sets out useful principles to guide government oversight of state-owned companies. The precise reforms required for ESI SOEs will vary by jurisdiction but could include such measures as:

- Independent members of the boards of directors.
- Hiring practices and compensation systems to attract and retain the most highly qualified candidates.
- Improve working relationships with unions to make them partners in reforming SOEs.

The creation of a strong independent regulator, an empowered energy ministry which guides ESI policy, and a vigilant finance ministry that oversees the financial and corporate governance of the ESI SOEs, will allow jurisdictions introducing electricity market reforms to have a greater chance of succeeding in establishing an effective, competitive electricity market. Strong regulatory institutions will also become a key instrument to assist the government and the sector in managing future changes as the market and policy context evolves.

[2] Organisation for Economic Co-operation and Development (OECD). (2023). *G20/OECD Principles of Corporate Governance 2023*. OECD Publishing. Paris. https://doi.org/10.1787/ed750b30-en

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